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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/719,676	11/21/2003	David Wiebe	1115-016/JRD	1307

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EXAMINER	
LAU, TUNG S	

ART UNIT	PAPER NUMBER
2863	

DATE MAILED: 05/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/719,676	WIEBE ET AL.	
	Examiner	Art Unit	
	Tung S. Lau	2863	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 November 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14,16-18 and 20-23* is/are rejected.

7)☒ Claim(s) *15,19,24 and 25* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *See office action*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. Information Disclosure Statement filed on 1-19-2005 is acknowledged by the examiner; A copy of a signed PTO-1449 attached with this office action.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-11, 14, 16 and 20-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Gras et al. (U.S. Patent 4,787,213).

Regarding claim 1:

Gras discloses for use in the monitoring of the performance of refrigeration equipment or the like, apparatus for obtaining and recording data from selected sensors for sensing the values over time of selected operating parameters of the equipment (abstract), comprising in combination, a plurality of sensors (Col. 1, Lines 54-60), each said sensor for continuously or continually sensing the value of a discrete said parameter (abstract); at least one discrete signal reception unit connected to the sensors or to an associated unique one of said sensors for providing over time a series of digital parameter data representative of a series of sensed values of the parameter or parameters with which such sensor is

associated (fig. 1, unit 10, 5, fig. 3), a computer operating under the control of a program for coordinating and organizing the digital parameter data and operating on the data to identify existing or incipient fault conditions and providing an output dependent upon the parameter data and the operations thereon (Col. 4, Lines 11-23), one or more receivers for receiving at least a selected portion of the computer output (Col. 4, Lines 11-23), communications links at least one from each said signal collection unit to the computer and at least one from the computer to each said receiver for transmitting data therebetween (Col. 4, Lines 11-23, Col. 1, Lines 54-60).

Regarding claim 14:

Gras discloses an apparatus for monitoring refrigeration equipment or the like powered by electricity supplied by a suitable source, said refrigeration equipment or the like comprising an electrically powered compressor, an evaporator, and a refrigeration chamber, said monitoring apparatus in operation periodically sensing the values of a selected group of operating parameters of the equipment, providing output data representative of the sensed values (abstract), and performing a series of equipment performance checks or tests on the output data thereby to identify existing or incipient problems with the equipment (abstract), characterized in that the monitoring apparatus is provided with sensors and sensed parameter data value inputs obtained from the sensors associated with the selected group of operating parameters, and that the said selected operating parameters (Col. 1-2, Lines 49-13) include at least the following parameters: (a)

the line voltage of the source of electricity (Col. 5-6, Lines 53-13), (b) the current drawn by the compressor, (c) the condenser pressure (Col. 5, Lines 52-61), (d) the refrigeration chamber temperature (Col. 4, Lines 11-23) , and (e) the evaporator pressure (Col. 5, Lines 52-61).

Regarding claim 20:

Gras discloses an apparatus for monitoring refrigeration equipment or the like powered by electricity supplied by a suitable source, said equipment having an electrically powered compressor, an evaporator, and a refrigeration chamber, said monitoring apparatus comprising means for periodically sensing the values of a selected group of operating parameters of the equipment and for providing output data representative of the sensed values (abstract), and for performing a series of equipment performance checks or tests on the output data thereby to identify existing or incipient problems with the equipment (abstract), characterized in that (i) the monitoring apparatus in reference value mode first establishes reference values of the selected operating parameters by sensing and storing values of the selected operating parameters during satisfactory normal operation of the equipment (Col. 4, Lines 1-34), and that (ii) the monitoring apparatus in continuing operation performs equipment performance checks (Col. 4, Lines 1-34) or tests that include a comparison of present values and/or immediately preceding historic values of the selected operating parameters with corresponding reference values for the selected operating parameters (Col. 4, Lines 1-34, fig. 3).

Regarding claim 22:

Gras discloses an apparatus for monitoring refrigeration equipment or the like powered by electricity supplied by a suitable source, said refrigeration equipment or the like (abstract) comprising an electrically powered compressor (Col. 5, Lines 52-61), an evaporator (Col. 5, Lines 52-61), and a refrigeration chamber (Col. 5, Lines 52-61), the monitoring apparatus comprising: in combination, a sensor for continuously or continually sensing the value of each said parameter, a discrete signal collection unit connected to each said sensor for providing over time a stream of digital parameter data representative of a series of sensed values of the parameter with which such sensor is associated (Col. 1, Lines 54-60, Col. 4, Lines 11-23), a general-purpose computer (fig. 1,unit 10) for coordinating the operation of the sensors (fig. 1, unit 5) and signal collection units and performing a series of performance checks on the equipment using the digital parameter data thereby to identify existing or incipient fault conditions in the equipment (abstract) , data storage means for storing selected data; a communications link from each said signal collection unit to the computer for transmitting the data streams to the computer under the control of the computer (Col. 1, Lines 10-29), and a display monitor connected to and receiving output from the computer for viewing selected data and selected performance check results (fig. 1, unit 10, fig. 3), characterized in that the data storage means includes reference data providing a standard of comparison against which sensed data may be compared (Col. 4, Lines 11-23), the computer compares the

data stream or selected data extracted or calculated therefrom with the reference data or selected portions of the reference data when performing the performance checks (Col. 4, Lines 11-23), and the computer output to the display monitor and displayed on the display monitor includes the results of selected performance checks (Col. 4, Lines 11-23, fig. 3).

Regarding claim 2, Gras further discloses the computer and at least one said receiver are integrated into a single unit (fig. 1, unit 10, 5); Regarding claim 4, Gras further discloses receiver is remotely located relative to the equipment, thereby permitting remote monitoring of existing or incipient fault conditions in the Equipment (abstract); Regarding claim 5, Gras further discloses a microcontroller coupled to or forming pad of the or each said signal collection unit (fig. 1, unit 10, 5), the microcontroller in operation being programmed to control and coordinate the operation of the (fig. 2) or an associated one of said signal collection units and an associated one of said communications links (abstract); Regarding claims 6, 7, Gras further discloses he microcontroller is programmed to organize the digital parameter data as time series (Col. 4, Lines 11-23); Regarding claim 8, Gras further discloses the microcontroller converts to digital form any sensed data in analog form (Col. 4, Lines 11-23, fig. 2, unit 103, 107, 105, 106, , fig. 3); Regarding claim 9, Gras further discloses the receiver is part of a monitoring and recording unit and is operable to provide a record of selected current and/or historic parameter data and/or data representing an existing or

incipient fault condition in the monitored equipment (fig. 3); Regarding claim 10, Gras further discloses the computer is part of or connected to a monitoring and recording unit for monitoring and/or recording existing or incipient fault conditions in the monitored equipment and related parameter data, and wherein the receiver is remotely connected to the monitoring and recording unit and is operable to provide a record of selected current and/or historic parameter data and/or data representing an existing or incipient fault condition in the monitored equipment (fig. 3, Col. 3, Lines 11-24); Regarding claim 11, Gras further discloses storing parameter data as reference data (Col. 3, Lines 11-24); Regarding claim 16, Gras further discloses a sensor for continuously or continually sensing the value of each said parameter (abstract); a discrete signal collection unit connected to each said sensor for providing over time a stream of digital output data representative of a series of sensed values of the parameter with which such sensor is associated, a general-purpose computer for coordinating the operation of the sensors and signal collection units (fig. 1, unit 5, 10); and a communications link from each said signal collection unit to the computer for transmitting the data streams to the computer under the control of the computer (fig. 1, unit 5, 10), and wherein the computer causes and controls the performance of the equipment performance checks or tests (fig. 2, unit 103, 107); Regarding claim 21, Gras further discloses line voltage electricity (Col. 4, Lines 11-23); Regarding claim 23, Gras further discloses computer connected to telecommunication link (fig1, unit 10, 5).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

a. Claims 12, 13, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gras et al. (U.S. Patent 4,787,213) in view of Shavit (U.S. Patent 3,555,251).

Regarding claim 12, Gras discloses the computer is programmed to operate on the time series of digital parameter data received from the signal collection unit or units, the computer in operation a) storing (i) immediately preceding historic data for one or more predetermined time intervals (fig. 2, unit 103, 107), and (ii) reference data with which to compare such historic data (fig. 2, unit 103, 107); b) comparing current data and/or historic data with the reference data so as to detect an incipient or existing fault condition (fig. 2, unit 100, 101, 102), and c) transmitting to the receiver or a led signal or message whenever such incipient or existing fault condition is detected, together with data identifying the incipient or existing fault condition (Col. 4, Lines 11-23).

Regarding claim 17, Gras further discloses monitoring high pressure on the compressor side (Col. 2, Lines 28-49).

Regarding claim 18, Gras further discloses operation for selected ones of the existing or incipient faults as (i) a signal if, for each such selected fault, the associated monitored parameter or parameters are of values that exceeds (fig. 1, unit 103, 107) or falls below, as the case may be, a predetermined critical threshold as measured at a predetermined time or over a predetermined time interval thereby indicating that the fault condition is critical, and (ii) a low-warning signal if an existing or incipient fault condition is detected but the associated monitored parameter (fig. 1, unit 103, 104) or parameters are of values that fail to cross the predetermined critical threshold.

Gras does not discloses a warning or alert signal, Shavit discloses a warning or alert signal (Col. 3, Lines 35-60), in order to know the state of the machine and take the appropriate action (Col. 3, Lines 35-60).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Gras to have the warning or alert signal taught by Shavit in order in order to know the state of the machine and take the appropriate action (Col. 3, Lines 35-60).

Regarding claim 13, Gras discloses Gras disclose a method including the subject matter discussed above except the fault and the date and time the fault was detected to be transmitted to the receiver, and wherein the receiver

comprises a pager or monitor accessible by service personnel. Shavit discloses the date and time the fault was detected to be transmitted to the receiver, and wherein the receiver comprises a pager or monitor accessible by service personnel (Col. 3, Lines 35-60), in order in order to know the state of the machine and take the appropriate action (Col. 3, Lines 35-60).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Gras to have the date and time the fault was detected to be transmitted to the receiver, and wherein the receiver comprises a pager or monitor accessible by service personnel taught by Shavit in order in order to know the state of the machine and take the appropriate action (Col. 3, Lines 35-60).

Claim Objections

4. Claims 15, 19, 24 and 25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all the limitation of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance: prior art fail to teach: Regarding claims 15 and 19, defrost current; Regarding claim 24, monitor is a pager.

Claim 25 is objected due to their dependency on claim 24.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung S Lau whose telephone number is 571-272-2274. The examiner can normally be reached on M-F 9-5:30. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on 571-272-2269. The fax phone numbers for the organization where this application or proceeding is assigned is 703-872-9306 Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BRYAN BUI
PRIMARY EXAMINER